

nected teeth 37 (shown in Figs. 5 to 7 as adapted for coaction with a chain) may be formed on a ring which comprises a web 38 and a base 39, curved to conform to the shell 21, which may be identical in form with that previously described and mounted upon the wheel in the same manner. At the inside of this ring is secured a retaining-ring 40, similarly curved at its inner side, and between the base 39 and the retaining-ring and comprised in each are a suitable number of sockets (here illustrated as four) which receive pins or projections 41, extending into slots 42, formed in the shell. As these connected teeth will have no capability of self-adjustment, as was the case in the form hereinbefore described, it will be seen that when the wheel is turned in steering the projections which occupy angular positions between the vertical and the horizontal will be forced not axially of the slots, but at an angle thereto, and for this reason it is necessary that a clearance should be provided. This may be effected by widening the opposite ends of the grooves, their contact-walls being shown as of reversed ellipsoidal form. The inner ends of the pins 41 cooperate with the annular groove in the ring carried by the frame-yoke, as in the previously-described arrangement, and the toothed ring is therefore maintained thereby in the true driving plane. Whichever form is employed, it is obvious that the vehicle may be driven by connecting the motor to the steering-wheels without sensibly interfering with the flexibility of movement.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a frame, of an axle mounted to swing thereon, a vehicle-wheel rotatable about the axle, driving-teeth in rotatable engagement with the wheel, and means carried by the frame for guiding the teeth.

2. The combination with a frame, of an axle mounted to swing thereon, a vehicle-wheel rotatable about the axle and being provided with slots, driving-teeth extending through the slots, and means carried by the frame for guiding the teeth.

3. The combination with a frame, of an axle mounted to swing thereon, a vehicle-wheel rotatable about the axle and being provided with slots, driving-teeth extending through the slots, means carried by the frame for guiding the teeth, and steering mechanism connected with the guiding means.

4. The combination with a frame, one member of which is provided with a groove, of an axle mounted to swing thereon, a vehicle-wheel rotatable about the axle, and driving-teeth in engagement with the frame-groove and with the wheel.

5. The combination with a frame, of an axle mounted to swing thereon, a vehicle-wheel rotatable about the axle and being provided with a series of slots, and a tooth movable in

each of the slots, said teeth also having engagement with the frame.

6. The combination with a frame provided with an annular groove, of an axle mounted to swing thereon, a vehicle-wheel rotatable about the axle and being provided with a series of slots, and a tooth movable in each of the slots, said teeth extending into the annular groove.

7. The combination with a frame, of an axle mounted to swing thereon, a vehicle-wheel rotatable about the axle, a parti-spherical shell carried by the wheel and having a series of slots extending in the direction of the wheel-axis, teeth movable in the slots, and means for guiding the teeth.

8. The combination with a frame, of an axle mounted to swing thereon, a vehicle-wheel rotatable about the axle, independent driving-teeth in rotatable engagement with the wheel, and means carried by the frame for constraining the teeth to move in a single plane.

9. The combination with a frame, of an axle mounted to swing thereon, a vehicle-wheel rotatable about the axle and being provided with a series of slots, and an independently-movable tooth situated in each of the slots and having engagement with the frame.

10. The combination with a frame, of a yoke carried thereby, an axle trunnioned upon the yoke, a wheel journaled upon the axle, and a driving projection having movable engagement with the yoke and wheel.

11. The combination with a frame, of a yoke carried thereby, an axle trunnioned upon the yoke, a wheel journaled upon the axle, a driving projection having movable engagement with the yoke and wheel, and steering mechanism connected with the trunnion.

12. The combination with a frame, of a yoke carried thereby, an axle trunnioned upon the yoke and having a grooved annulus fixed thereto, a wheel journaled upon the axle, and a driving projection extending into the groove and having rotatable engagement with the wheel.

13. The combination with a frame, of a yoke carried thereby, an axle trunnioned upon the yoke, a wheel journaled upon the axle and being provided with a series of slots, driving projections movable in the slots, and means carried by the yoke for guiding the driving projections.

14. The combination with a frame, of a yoke carried thereby, an axle trunnioned upon the yoke, a wheel journaled upon the axle and being provided with a series of slots, independent driving projections movable in the slots, and means carried by the yoke for guiding the driving projections.

15. The combination with a frame, of a wheel rotatably mounted thereon and being provided with a series of slots, and teeth movable in the slots.

16. The combination with a frame, of a wheel